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A REVISION OF THE GENUS RHEXIDIUS CASEY

(Coleoptera: Pselaphidae)

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The genus *Rhexidius* was proposed by T. L. Casey in 1887 for a single species, *R. granulatus*, described from specimens collected at Alameda County, California. A second California species, *R. asperulus*, was proposed for specimens from San Francisco and Santa Cruz Counties by Casey in 1893. A number of eastern species included in *Rhexidius*, if congeneric with *R. caniculatus* LeConte, have been erroneously placed in the genus. The species described by LeConte differs markedly in the structure of the aedeagus and the postantennal apodemes, and in possessing glandular setae on the dorsal surface of the head. These eastern species, therefore, are not included, and this revision is restricted to the genus as intended by Casey. Also doubtful is the placement of two species from Mexico.

The species thus far discovered are restricted in distribution to the Coast Range of California. Their occurrence north of the 40th Parallel is considered unlikely since the area has been well collected. The southernmost limit of distribution is presently near Point Sur, but it should extend further south into the Santa Lucia Range, an area that has not been collected. Insofar as the genus apparently does not occur in the extreme north of California or in the Sierras, it may not have been present in the Arcto-Tertiary faunal intrusion, and might therefore be considered to have recently evolved, in its present location, from *Oropus* ancestry.

Rhexidius is closely related to *Oropus*, differing mainly in the structure of the median lobe of the aedeagus. It also differs in the structure of the postantennal apodemes, and in the pronotal margins which are entirely crenulate and lack basolateral teeth. The characters most useful for specific determination, as in *Oropus*, are the sulci and setal patches of visible tergite IV. These characters are absent in the female. In *Rhexidius*, the aedeagi have sufficient character to be of value in distinguishing species.

Assuming the small atrium in the base of the aedeagus always to be ventral, the structure shows a sinistral or dextral orientation. The form in which the large paramere is sinistral to the median

lobe is the most common. There is no basis in morphology or distribution to indicate the coexistence of sinistral and dextral species which are identical in other respects. When a species is predominantly dextral, it is easily separated from sinistral species with which it occurs by the shape of the aedeagus and by external characters. Exact mirror images have been noted in the aedeagi of the same species but the frequency of occurrence is very low.

Specimens of *Rhexidius* are red-brown, the legs not as dark as the body, and the palpi, antennal club and tarsi are frequently yellow.

Measurements of head length are made from the clypeus to where the tempora join the neck and those of head width are taken immediately behind the eyes but not including any facets. The tergites are numbered as they appear, disregarding the first actual tergite. Within a species, the mesocoxal cavities can be broadly confluent or completely closed. Of value as a specific character is the placement of the postcoxal apodemes which may be directed to posterior or which may extend forward along the mesocoxal cavities. In slide preparations, the tergites should be separated from the sternites to facilitate the study of tergite IV. The aedeagus is best isolated and mounted under a separate cover glass.

In the distributional data, collectors' names are abbreviated as follows: S. F. Bailey (SFB), D. J. Burdick (DJB), W. C. Bentinck (WCB), J. S. Buckett (JSB), E. E. Gilbert (EEG), J. R. Helfer (JRH), S. M. Fidel (SMF), H. B. Leech (HBL), D. D. Linsdale (DDL), C. D. MacNeill (CDM), G. A. Marsh (GAM), C. W. O'Brien (CWO), V. D. Roth (VDR), R. O. Schuster (ROS), N. A. Walker (NAW), and M. S. Wasbauer (MSW).

The holotypes of all new species are slide-mounted males and are deposited in the California Academy of Sciences, San Francisco. Large paratypic series will be distributed among the University of California at Davis, the California Insect Survey, and the collection of Dr. Orlando Park. Small series are retained by the authors.

KEY TO POINT-MOUNTED MALES

- | | | |
|-------|--|--------------------------------------|
| 1 | Metasternum with setate tumosity between metacoxae..... | 2 |
| | –Metasternum lacking setate tumosity between metacoxae..... | 4 |
| 2 (1) | Sulcus of tergite IV median, the microstetigerous area developed as a median tubercle..... | <i>aggestus</i> Schuster & Grigarick |
| | –Sulcus of tergite IV otherwise; microstetigerous area not produced | |

- as a tubercle..... 3
- 3 (2) Sulcus of tergite IV deeply impressed along base of segment
.....*crenatus* Schuster & Grigarick
-Sulcus of tergite IV weakly and obliquely impressed each side
of center*granulosus* Casey
- 4 (1) Tergite IV lacking obvious sulcus..... 5
-Tergite IV with sulcus..... 6
- 5 (4) Eyes with about 30 facets, tergite IV appearing very short and
transverse*impensus* Schuster & Grigarick
-Eyes with less than 15 facets; occurring south of 38th Parallel
incomptus Schuster & Grigarick
-Eyes with less than 15 facets; occurring north of 38th Parallel
.....*cuspidatus* Schuster & Grigarick
- 6 (4) Sulcus of tergite IV deep, polished, oblique each side of center, or
sinuate if base of segment exposed.....*asperulus* Casey
-Sulcus of tergite IV somewhat variable but more basal in position;
most of tergite IV glabrous.....*hispidus* Schuster & Grigarick
-Sulcus of tergite IV shallow, transverse; basal half of tergite IV
glabrous.....*glareosus* Schuster & Grigarick

RHEXIDIUS GRANULOSUS Casey

(Figs. 7, 8, 17)

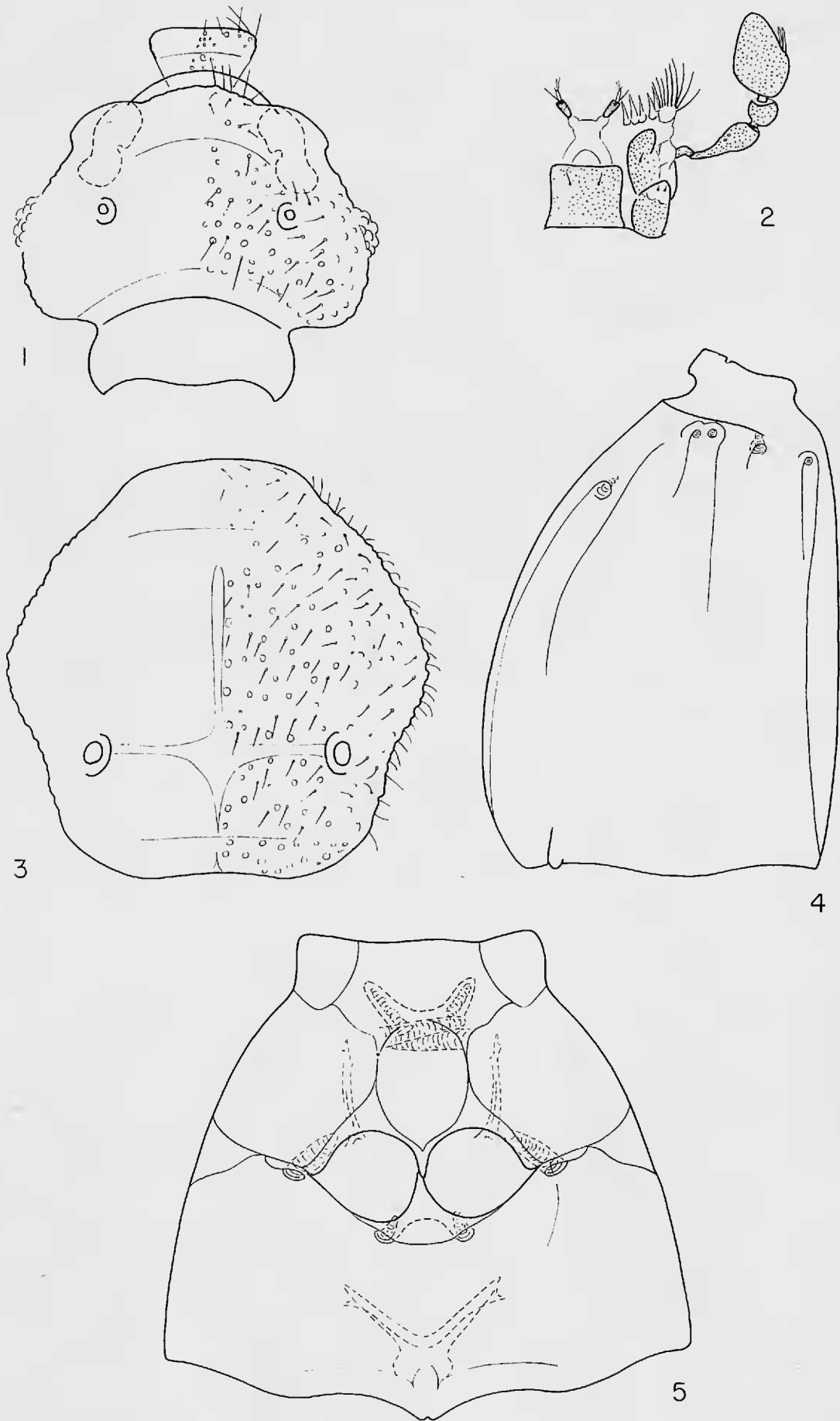
Rhexidius granulosus Casey, 1887.

Male (slide). Head 198μ long x 259μ wide; eyes with 5 or 6 peripheral facets; vertexal foveae on line through posterior fourth of eyes; length antennal segment X 36μ , XI 136μ . Pronotum 319μ long x 319μ wide. Brachyp-
terous. Elytra 353μ long. Profemoral line 101μ long. Mesocoxal cavities
confluent, the postcoxal apodemes directed posteriorly; metasternum with
setate tumosity between metacoxae. Tergite I 182μ long x 381μ wide; median
basal impression of tergite I 141μ wide. Tergite IV 136μ long x 290μ wide,
evenly setate except for narrow sinuate area at base; microsetigerous area
 118μ wide. Pitting of sternite V 272μ wide. Sternite VI 77μ long x 225μ wide.
Aedeagus 277μ long x 132μ wide, sinistral. *Male* (point-mount). Eyes with
about 15 facets. Tergite IV appears as long as III and is slightly impressed
each side of center; microsetigerous area visible beneath tergite III. Tumosity
of metasternum obvious. Sternite VI weakly impressed medially.

Female. Resembles male except: Lacking setate tumosity of metasternum
and sternite VI is shorter and not impressed medianly.

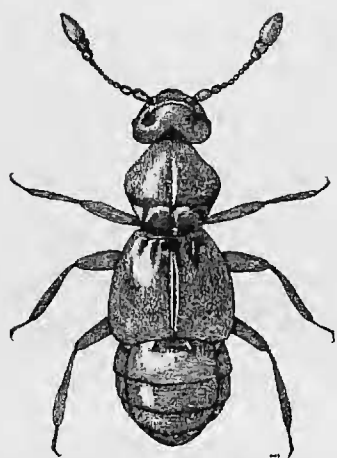
Distribution.—Alameda Co.: Oakland (or Hills Back of), 1 ♀ II-5-53
(ROS), 4 ♂, 6 ♀ II-8-53 (ROS), 3 ♂ 1 ♀ II-12-53 (ROS), 1 ♀ II-13-53
(WCB), 1 ♂ II-18-53 (ROS), 4 ♂, 5 ♀ III-8-53 (ROS), 2 ♂ I-9-54 (GAM,
ROS), 1 ♂ V-26-55 (NAW). Contra Costa Co.: Mt. Diablo, 1 ♂ II-15-53,
oak litter (GAM); Redwood Park, 5 ♂, 4 ♀ V-18-53, redwood litter (EEG,
ROS), 10 ♂, 3 ♀ V-28-53 (EEG); Redwood Peak, 1 ♂ I-9-54 (ROS). San
Mateo Co.: 6 miles S.E. Half Moon Bay, 18 ♂, 23 ♀ XII-5-53 (VDR),
1 ♂ VI-1-57 (ROS), 2 ♂, 2 ♀ VII-21-57 (ROS), 7 ♂, 6 ♀ IV-26-59 (ROS);
Santa Cruz Co.: Big Basin, 1 ♂ XII-23-53 (VDR).

The aedeagus of the holotype is comparable to the aedeagi of



glareosus

Figs. 1-5, *Rhexidius glareosus*. 1, head; 2, labium and maxilla; 3, pronotum; 4, elytron; 5, meso- and metathorax.



6



7 granulosus



8 granulosus



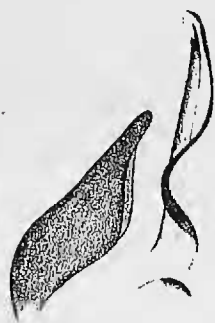
9 crenatus



10 aggestus



11 incomptus



12 asperulus



13 glareosus



14 cuspidatus



15 hispidus



16 impensus

Fig. 6, dorsal aspect of *Rhexidius* sp.; Figs. 7-16, aedeagi, species as indicated.

specimens from Alameda County (Fig. 7) from which the re-description was made. In populations from San Mateo and Santa Cruz Counties, the left side of the median lobe shows a wider area of sclerotization (Fig. 8). These populations are considered to be conspecific with the Alameda population as the magnitude of the difference between the aedeagi, although consistent, is not great. The aedeagus (Fig. 8) of a specimen from San Mateo County is dextral, the only exception noted for this normally sinistral species.

***Rhexidius crenatus* Schuster and Grigarick, new species**

(Figs. 9, 18)

Male (slide):—Head 202μ long x 279μ wide; eyes with 6 peripheral facets: vertexal foveae on line through posterior fifth of eyes; length antennal segment X 33μ , XI 136μ . Pronotum 323μ long x 340μ wide. Brachypterous. Elytra 360μ long. Profemoral line 118μ long. Mesocoxal cavities slightly confluent, the postcoxal apodemes directed forward; metasternum with setate tumosity between metacoxae. Tergite I 163μ long x 363μ wide; median basal impression of tergite I 136μ wide. Tergite IV 104μ long x 296μ wide, setate in distal half except laterally where setae extend to base; microsetigerous area 118μ wide. Pitting of sternite V 275μ wide. Sternite VI 77μ long x 246μ wide. Aedeagus 286μ long x 118μ wide, sinistral. *Male* (point-mount).—Eyes with about 20 facets. Tergite IV appears as long as III and is deeply impressed in middle three-fifths; microsetigerous area visible beneath tergite III. Tumosity of metasternum obvious. Sternite VI weakly impressed medianly.

Female.—Resembles the male except: Eyes with 15-16 facets. Lacking sulcus of tergite IV and setate tumosity of metasternum. Sternite VI is shorter.

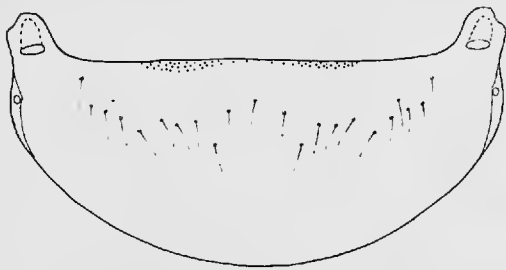
Holotype male and five paratype males are from TWO MILES SOUTH OF OLEMA, MARIN COUNTY, CALIFORNIA, November 1, 1953 (R. O. Schuster). Additional specimens not included in the type series were from: same locality, 11 ♀. Santa Cruz County; Big Basin, 1 ♂, December 23, 1953 (VDR).

This species is distinguished from *R. granulatus* by the shorter tergite IV, by the deep transverse sulcus, and by the postcoxal apodemes which are transverse or point forward along the coxal cavities. The single specimen from Big Basin is distinguishable from the specimens taken at Olema and its conspecific status is questionable.

***Rhexidius aggestus* Schuster and Grigarick, new species**

(Figs. 10, 19)

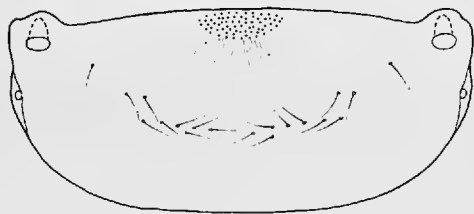
Male (slide).—Head 188μ long x 255μ wide; eyes with 4 or 5 peripheral facets; vertexal foveae on line through posterior sixth of eyes; length antennal segment X 44μ long, XI 131μ long. Pronotum 312μ long x 322μ wide.



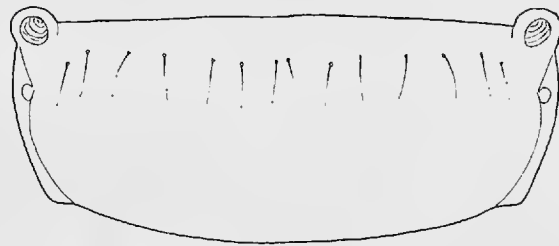
17 granulosus



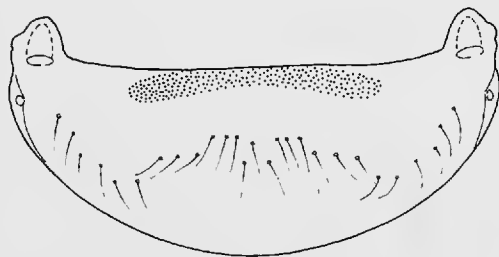
18 crenatus



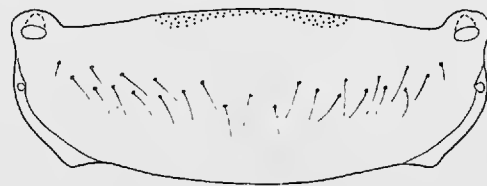
19 aggestus



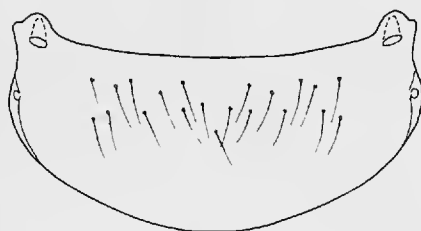
20 incomptus



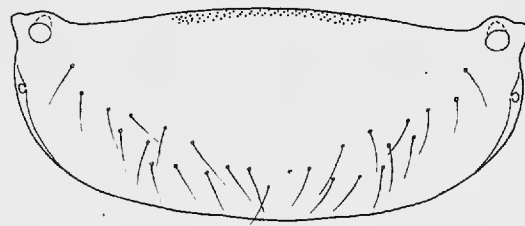
21 asperulus



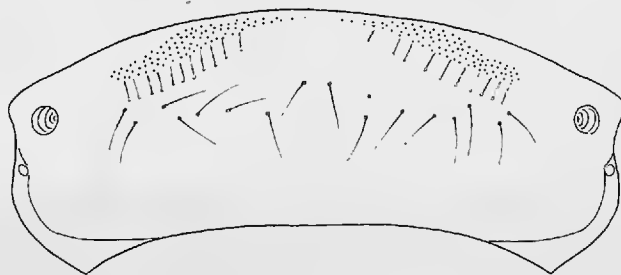
22 glareosus



23 cuspidatus



24 hispidus



25 impensus

Figs. 17-25. fourth tergites of males, species as indicated.

Brachypterous. Elytra 322μ long. Profemoral line 101μ long. Mesocoxal cavities confluent, the postcoxal apodemes directed posteriorly, overlapping; setate tumosity of metasternum reduced. Tergite I 184μ long x 380μ wide; median basal impression of tergite I 136μ wide. Tergite IV 134μ long x 306μ wide, microsetigerous area 57μ wide; distal half of tergite IV covered by normal setae, a greater area laterally. Pitting of sternite V 249μ wide. Sternite VI 64μ long x 222μ wide. Aedeagus 185μ long x 101μ wide; sinistral. *Male* (point-mount).—Eyes small with 10-11 facets. Tergite IV basally with procurved, deep, polished sulcus with a median setate tubercule. Sternite VI very short, apparently not impressed. Setate tubercule between metacoxae very reduced or obsolete on some individuals.

Female unknown.

Holotype male and 17 paratype males are from BOULDER CREEK, SANTA CRUZ COUNTY, CALIFORNIA, December 23, 1953 (V. D. Roth). Additional paratypes were from: Santa Cruz County: Big Basin, 19 ♂ March 28, 1951 (JRH); Ben Lomond, 1 ♂ January 22, 1955 (MSW). San Mateo County, 6 miles southeast Half Moon Bay, 2 ♂, April 26, 1959 (ROS), 18 ♂, December 5, 1953 (VDR). On additional male, not a paratype, from Mt. Madonna, Santa Clara County, January 2, 1954 (DJB).

The occurrence of the microsetigerous area as a central tumosity distinguishes this species. These microsetae are of a different thickness at some localities and the setate tumosity of the metasternum is weakly developed at the Half Moon Bay locality.

***Rhexidius incomptus* Schuster and Grigarick, new species**

(Figs. 11, 20)

Male (slide).—Head 208μ long x 282μ wide; eyes with 5 peripheral facets; vertexal foveae on line through posterior fourth of eyes; length antennal segment X 55μ , XI 150μ . Pronotum 349μ long x 336μ wide. Brachypterous. Elytra 370μ long. Profemoral line 114μ long. Mesocoxal cavities contiguous, the postcoxal apodemes directed forward along inner edge of coxal cavities; metasternum lacking setate tumosity between metacoxae. Tergite I 409μ wide, median impression of tergite I 154μ wide. Tergite IV 135μ long x 353μ wide; tergite IV lacking microsetigerous area, uniformly covered by normal setae. Pitting of sternite V 310μ wide; VI unknown. Aedeagus 385μ long x 185μ wide, dextral. *Male* (point-mount).—Eyes small, nearly circular, with 10 or 11 facets. Tergite IV lacking sulcus and microsetigerous area. Metasternum shallowly impressed, lacking setate tumosity. Sternite VI medianly impressed.

Female.—Resembles the male except: Eyes with about 9 facets.

Holotype male and five paratypes (2 ♂, 3 ♀) are from SEVEN MILES SOUTH POINT SUR, MONTEREY COUNTY, CALIFORNIA, December 22, 1953 (V. D. Roth). One additional female from Big Sur State Park, Pfeiffer, Monterey County, August 30, 1956 (NAW).

On the basis of key characters, this species is similar only to *R. cuspidatus*. *Rhexidius incomptus* occurs at the southern extent of the generic range, *R. cuspidatus* at the northern extent. *R. incomptus* is a slightly larger species, the aedeagus is distinctive in shape and is dextral. There is less deflection of the abdomen as compared with *R. cuspidatus*. Two males were slide-mounted. In one, the aedeagus was sinistral, and in the other it was dextral.

RHEXIDIUS ASPERULUS Casey

(Figs. 12, 21)

Rhexidius asperulus Casey, 1893

Male (slide).—Head 208μ long x 289μ wide; eyes with about 8 peripheral facets; vertexal foveae on line through posterior fourth of eyes; length antennal segment X 37μ , XI 134μ . Pronotum 343μ long x 349μ wide. Brachypterous. Elytra 386μ long. Prefemoral line 124μ long. Mesocoxal cavities narrowly confluent, the postcoxal apodemes directed forward along inner edge of coxal cavities; metasternum lacking setate tumosity. Tergite I 202μ long x 417μ wide; median basal impression of tergite I 168μ wide. Tergite IV 124μ long x 326μ wide, the first row of setae in sinuate pattern; microsetigerous area 178μ wide. Sternite V with row of pits 252μ wide. Sternite VI 74μ long x 252μ wide. Aedeagus 276μ long x 128μ wide, sinistral. *Male* (point-mount).—Eyes with 35-40 facets. Tergite IV with deeply impressed, polished sulcus; microsetigerous area visible beneath tergite III. Metasternum not tuberculate. Sternite VI not appreciably impressed.

Female.—Resembles male except: Eyes smaller, with 15-17 facets. Sulcus and microsetigerous area lacking.

Distribution.—Marin Co.: Alpine Lake, 1 ♂, 1 ♀ VI-18-53 (CDM, ROS); Hicks Mountain, 2 ♂, 8 ♀ VI-29-58 (JSB); Mill Valley, 1 ♀ VI-14-52 (HBL), 2 ♂, 2 ♀ IX-2-53 (GAM, ROS); Samuel P. Taylor State Park, 12 ♂, 11 ♀ X-24-53 (VDR), 15 ♂, 25 ♀ XI-1-53 (GAM, VDR, ROS), 1 ♂, 2 ♀ XI-8-53 (VDR, ROS), 2 ♂ VII-5-59 (CWO), 1 ♂ XII-6-58 (CWO), 2 ♂ XII-13-58 (CWO), 1 ♂ I-17-59 (CWO); 2 miles south Olema, 1 ♀ XI-1-53 (ROS); Woodacre, 1 ♂ XI-1-53 (ROS); Napa Co., Mt. St. Helena, 1 ♀ XII-31-53 (GAM, VDR, ROS). San Mateo Co.: Kings Mtn., 1 ♂ IX-1-58 (ROS); 6 miles southeast Half Moon Bay, 7 ♂ VI-1-57 (ROS). Santa Clara Co.: Stevens Creek, 2 ♂, 7 ♀ VI-2-57 (ROS), 4 ♂, 2 ♀ VII-27-57 (GAM); Holy City, 8 ♂, 10 ♀ III-27-54 (JRH); Mt. Madonna, 5 ♂, 4 ♀ II-7-59 (DJB). Santa Cruz Co.: Big Basin, 1 ♀ XII-23-52 (VDR); Ben Lomond, 2 ♂ I-22-55 (MSW); 12 miles north Boulder Creek, 2 ♂, 7 ♀ I-22-55 (DJB); Mt. Hermon, 1 ♂, 3 ♀ III-6-55 (DJB); Santa Cruz, 1 ♂ XII-23-53 (VDR), 3 ♂, 2 ♀ III-27-54 (JRH), 6 miles north Santa Cruz, 2 ♂ III-27-54 (JRH); 9 miles northeast Soquel, 6 ♂, 15 ♀ XII-31-56 (SMF).

The males of this species are distinguished by the large eyes, by the absence of a metasternal tumosity and by the large, sinuate tergal sulcus. The redescription was based on specimens from Santa Cruz County. The aedeagi of these specimens are comparable to that of the Casey holotype.

Rhexidius glareosus Schuster and Grigarick, new species

(Figs. 1-5, 13, 22)

Male (slide).—Head 202μ long x 276μ wide; eyes with about 8 peripheral facets; vertexal foveae on line through posterior fourth of eyes; antennal segment X 44μ long, XI 134μ . Pronotum 322μ long x 339μ wide. Winged. Elytra 430μ long. Profemoral line 104μ long. Mesocoxal cavities contiguous, the postcoxal apodemes directed forward along inner edge of coxal cavities. Median basal impression of tergite I 151μ wide. Tergite IV with microsetigerous area 124μ wide; distal half of tergite IV uniformly covered by normal setae. Sternite V with pitting 285μ wide; VI 71μ long x 235μ wide. Aedeagus 164μ long x 84μ wide, sinistral.

Male (point-mount).—Eyes with about 20 facets. Tergite IV with weak sulcus; basal half of tergite IV glabrous, the microsetigerous area not apparent. Tergite VI slightly impressed medianly.

Female.—Resembles the male except: Eyes with about 15 facets. Tergites III and IV of subequal length. Sternite VI without, or with very slight median impression.

Holotype male and 122 paratype males are from SAMUEL P. TAYLOR STATE PARK, MARIN COUNTY, CALIFORNIA, November 1, 1953 (G. A. Marsh, V. D. Roth, and R. O. Schuster). Additional specimens not considered paratypes were from: Marin County: Samuel P. Taylor St. Park, 42 ♂, 59 ♀ X-24-53 (VDR), 136 ♀ XI-1-53 (GAM, VDR, ROS), 18 ♂, 59 ♀ XI-8-53 (VDR, ROS), 1 ♂, 1 ♀ XII-13-54 (JRH), 14 ♂, 14 ♀ VII 5-56 (EEG), 1 ♀ II-3-58 (JRH), 1 ♂, 5 ♀ I-17-59 (CWO); Alpine Lake, 5 ♂, 22 ♀ VI-18-53 (CDM, ROS) 2 miles west Alpine Lake 2 ♂, 9 ♀ VII-18-53 (ROS) Mill Valley, 7 ♂, 12 ♀ IX-2-53 (GAM, ROS) Sonoma County: Armstrong Redwoods St. Park, 1 ♀ III-14-54 (JRH); Mark West Resort, 1 ♀ III-4-54 (JRH), 2 ♀ I-22-58 (ROS); Mark West Springs 5 ♂, XII-31-53 (GAM, VDR, ROS); Petrified Forest, 4 ♂ XI-21-53 (JRH). Napa County: Calistoga, 1 ♀ IV-23-57 (SFB); Mt. St. Helena, 7 ♂, 23 ♀ XII-31-53 (GAM, VDR, ROS), 7 ♂, 6 ♀ II-7-55 (JRH); 2 miles west Oakville, 2 ♂ XII-31-53 (GAM, VDR, ROS).

The males are distinguished by a transverse, shallow sulcus. The depth of the sulcus is much less than that of *R. crenatus*. *R. glareosus* lacks the metasternal tumosity of that species. Specimens from Mark West in Sonoma County, appear to be *R. glareosus* but the anterior part of tergite IV is not as shiny as specimens from the type locality.

Rhexidius cuspidatus Schuster and Grigarick, new species

(Figs. 14, 23)

Male (slide).—Head 192μ long x 272μ wide; eyes with 3 or 4 peripheral

facets; vertexal foveae on line with posterior eye margins; length antennal segment X 44μ , XI 155μ . Pronotum 349μ long x 336μ wide. Brachypterous. Elytra 336μ long. Profemoral line 101μ long. Mesocoxal cavities contiguous, the postcoxal apodemes directed forward along inner edge of coxal cavities. Tergite I 168μ long x 363μ wide; median basal impression 127μ wide. Tergite IV 131μ long x 286μ wide, lacking microsetigerous area, rather uniformly covered by normal setae. Sternite V with pitting 212μ wide. Sternite VI 81μ long x 215μ wide. Aedeagus 188μ long x 84μ wide, sinistral. *Male* (point-mount).—Eyes with 13-14 facets. Tergite IV appears as long or longer than III, evenly setate, lacking sulcus and microsetigerous area. Metasternum not tuberculate. Sternite VI medianly longitudinally impressed, tumid each side of center. Abdomen more deflexed than usual for other species.

Female.—Resembles the male except: Eyes with 9 or 10 facets. Abdomen not deflexed. Sternite VI not medianly impressed.

Holotype male (XII-19-53) and 75 paratype males are from MENDOCINO, MENDOCINO COUNTY, CALIFORNIA, from 1954-1958 (J. R. Helfer). Additional specimens, not paratypes, are from: Mendocino County: Caspar, 58 ♂, 40 ♀ III-7-54 (JRH); Comptche, 4 ♀ VII-29-54 (JRH); Paul M. Dimmick Memorial Grove St. Park, 2 ♀ IV-10-55 (JRH); Fort Bragg, 7 ♂, 3 ♀ VII-3-54 (JRH), 3 ♀ IV-20-56 (JRH), 3 ♂, 1 ♀ I-5-57 (JRH); Little River, 5 ♂ VIII-4-57 (JRH), 2 ♂, 1 ♀ I-9-58 (JRH); Mendocino, 2 ♀ XII-19-53 (JRH), 9 ♀ II-14-54 (JRH), 6 ♀ VII-15-54 (JRH), 1 ♀ VII-29-54 (JRH), 5 ♀ XII-19-54 (JRH), I-20-55 (JRH), 10 ♀ II-23-55 (JRH), 1 ♀ IV-24-55 (JRH), 2 ♀ II-27-57 (JRH), 2 ♀ III-3-57 (JRH), 3 ♀ VIII-4-57 (JRH), 2 ♀ VIII-7-57 (JRH), 1 ♀ X-14-57 (JRH), 1 ♀ XI-2-57 (JRH), 1 ♀ XII-26-57 (JRH), 2 ♀ III-15-58 (JRH); 4 miles west Navarro, 1 ♀ XII-26-54 (JRH). Napa County: Mt. St. Helena, 3 ♂ II-7-55 (JRH), 2 ♂ II-3-59 (ROS); Napa, 2 ♂ II-3-59 (ROS); Oakville 18 ♂, 12 ♀ III-14-54 (JRH). Sonoma County: Kruse Rhododendron Reserve St. Park, 2 ♂, 2 ♀ X-9-54 (CDM, ROS), 7 ♂, 2 ♀ II-23-55 (JRH).

The small eyes, the lack of sulcus and metasternal tumosity, and the setate, non-sulcate tergite IV separate the point-mounted males of this species from others occurring north of San Francisco Bay.

Rhexidius hispidus Schuster and Grigarick, new species

(Figs. 15, 24)

Male (slide).—Head 202μ long x 286μ wide; eyes with 6 or 7 peripheral facets; vertexal foveae on line just before posterior margins of eyes; length antennal segment X 44μ , XI 134μ . Pronotum 336μ long x 343μ wide. Brachypterous. Elytra 353μ long. Profemoral line 114μ long. Mesocoxal cavities contiguous; postcoxal apodemes directed forward along inner edge of coxal cavities. Metasternum not tuberculate. Tergite I 175μ long x 403μ

Table 1. Summary of wing condition and aedeagal orientation.

SPECIES	No. MALES	No. FEMALES	CONDITION OF WINGS	ORIENTATION OF AEDEAGUS
<i>granulosus</i>	62	51	brachypterous	sinistral
<i>crenatus</i>	6	11	brachypterous	sinistral
<i>aggestus</i>	42	?	brachypterous	sinistral
<i>incomptus</i>	3	4	brachypterous	dextral
<i>asperulus</i>	84	99	either	sinistral
<i>glareosus</i>	241	371	either	sinistral
<i>cuspidatus</i>	190	115	brachypterous	sinistral
<i>hispidus</i>	250	145	brachypterous (mainly)	dextral
<i>impensus</i>	7	25	winged	dextral

wide; median basal impression 163μ wide. Tergite IV 134μ long x 326μ wide; microsetigerous area 121μ wide; tergite IV medianly with normal setae only in distal fourth. Sternite V with row of pits 319μ wide; sternite VI 72μ long x 252μ wide. Aedeagus 235μ long x 118μ wide, dextral. *Male* (point-mount).—Eyes with about 20 facets. Tergite IV with sulcus; microsetigerous area plainly visible under margin of tergite III; glabrous except laterally and a few setae along distal margin. Sternite VI not, or only vaguely impressed medianly.

Female.—Similar to the male except: Eyes with 12-14 facets. Tergite IV lacking sulcus.

Holotype male (X-19-57) and 73 paratype males are from MENDOCINO, MENDOCINO COUNTY, CALIFORNIA, from 1954-1958 (J. R. Helfer). Additional specimens, not paratypes, are from: Lake County: 6 miles northwest Upper Lake, 1 ♂, 7 ♀ II-12-55 (DJB). Mendocino County: Anchor Bay, 2 ♂, 1 ♀ II-23-55 (JRH); Caspar, 2 ♀ III-7-54 (JRH), 1 ♂, 1 ♀ II-10-56 (JRH); Comptche, 11 ♂, 10 ♀ VII-27-54 (JRH); Paul M. Dimmick Memorial Grove St. Park, 11 ♂, 1 ♀ VI-10-55 (JRH); Faulkner Park, 10 ♂, 6 ♀ X-14-54 (JRH); Fort Bragg, 6 ♂, 5 ♀ XII-24-54 (JRH); Mendocino, 1 ♀ X-14-54 (JRH), 2 ♀ II-23-55 (JRH), 4 ♀ IV-24-55 (JRH), 10 ♀ VI-2-55 (JRH), 14 ♀ II-27-57 (JRH), 5 ♀ III-3-57 (JRH), 1 ♀ VI-6-57 (JRH, ROS) 6 ♀ VII-6-57 (JRH, ROS), 8 ♀ X-8-57 (JRH), 35 ♀ X-19-57 (JRH), 8 ♀ XII-26-57 (JRH), 2 ♀ III-15-58 (JRH); MacKerricher Beach St. Park, 2 ♂, 1 ♀ III-17-58 (JRH); 4 miles west Navarro, 10 ♂, 1 ♀ XII-26-54 (JRH); Richardson Grove St. Park, 3 ♂ IX-9-58 (LMS). Sonoma County: Armstrong Redwoods St. Park, 2 ♂, 1 ♀ III-14-54 (JRH); Plantation, 3 ♂ II-23-55 (JRH); Seaview, 1 ♂, 1 ♀ II-23-55 (JRH); 10 miles west Skaggs Springs, 8 ♂, 8 ♀ IX-10-54 (JRH); Stewarts Points, 6 ♂, 1 ♀ VI-24-54 (NAW).

Two parallel, sclerotized rods on the median lobe opposite the paramere characterize the aedeagus. The fourth tergite which is predominantly glabrous and the lack of a tumosity on the metasternum identify the point-mounted males.

Rhexidius impensus Schuster and Grigarick, new species

(Figs. 6, 25)

Male (slide).—Head 218μ long x 286μ wide; eyes with about 8 peripheral facets; vertexal foveae on line through posterior fourth of eyes; length antennal segment X 44μ , XI 134μ . Pronotum 336μ long x 363μ wide. Winged. Elytra 436μ long. Profemoral line 121μ long. Mesocoxal cavities contiguous, the postcoxal apodemes directed forward along edge of coxal cavities; Metasternum not tuberculate. Tergite I 212μ long x 470μ wide; median basal impression of tergite I 155μ wide. Tergite IV 148μ long x 403μ wide;

microsetigerous area 269μ wide, recurved, the setae sparse medianly; distal two-thirds of tergite IV uniformly covered by normal setae. Sternite V with a basal row of pitting 336μ wide. Sternite VI 74μ long x 286μ wide. Aedeagus 202μ long x 111μ wide, dextral. *Male* (point-mount).—Eyes at least 30 facets. Tergite IV appears shorter than III, very wide, giving the abdomen a truncate facies. Sulcus lacking and microsetigerous area not visible beneath margin of tergite III.

Female.—Similar to the male except: Eyes with only 14-16 facets. Wings not developed. Tergite IV lacking microsetigerous area.

Holotype male and 32 paratypes (7 ♂, 25 ♀) from Mt. George, 7 miles east of Napa, Napa County, California, February 14, 1954 (Wm. E. Ferguson). This species also has been taken from the Putah Creek drainage west of the Berryessa Reservoir but the specimens are not included in the type series.

The large eyes of the male, and the wide fourth tergite distinguish this species from *R. cuspidatus*, the only other species found north of the 38th parallel which also lacks a sulcus on tergite IV.

The approximate numbers of each sex, condition of wings on males and orientation of the aedeagus are summarized in table 1.

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A HOST OF PYRIA INAEQUIDENS (DAHLBOM)

(Hymenoptera: Chrysididae)

A number of specimens of *Rygchium foraminatum scutellaris* (Saussure) (Vespidae) were reared from old mud nests of *Sceliphron caementarium* (Drury) (Sphecidae) at Davis, California in November of 1960 by the authors.

Fourteen male and sixteen female specimens of *R. f. scutellaris* emerged from the series of nests. One of the cells was occupied by a female of *Pyria inaequidens* (Dahlbom). The chrysidid was in the bottom cell of a two cell series.

Bodenstein¹ lists no host for *P. inaequidens* and apparently this is the first known host record. The authors are indebted to R. M. Bohart for the identification of the wasps.—C. G. MOORE and F. D. PARKER, *University of California, Davis*.

¹ Bodenstein, W. G., 1951. Family Chrysididae. In Musebeck, C. F. W., et al., Hymenoptera of America north of Mexico, synoptic catalog. U.S. Dept. Agr., Agr. Monog. No. 2, pp. 718-726.